

Ex-14.4

(1) The following number of goals were scored by a team in a series of 10 matches.

2, 3, 4, 5, 0, 1, 3, 3, 4, 3

ascending order \rightarrow

\Rightarrow 0, 1, 2, 3, 3, 3, 3, 4, 4, 5

$$\Rightarrow \frac{0+1+2+3+3+3+3+4+4+5}{10}$$

$$\Rightarrow \frac{28}{10} \Rightarrow 2.8 \text{ is the mean}$$

(ii) Median = $\left(\frac{10}{2}\right)^{\text{th}} + \left(\frac{10}{2} + 1\right)^{\text{th}}$

$$\Rightarrow (8)^{\text{th}} + \left(\frac{10 \times 1 + 1 \times 9}{2}\right)^{\text{th}} \Rightarrow 8^{\text{th}} + \frac{19}{2}$$

$$5^{th} = 3$$
$$6^{th} = 3$$

$$\text{Average} = \frac{3 + 3}{2} = \frac{6}{2} = 3 \therefore \text{Hence the median is } 3$$

(iii) Mode of this data is 3 as it is ~~not~~ repeated more times.

2) 41, 39, 48, 52, 46, 62, 54, 40, 26, 52
48, 40, 42, 52, 60.

$$\text{mean} = \frac{\text{Sum of all observation}}{\text{number of observation}}$$

$$= \frac{41 + 34 + 48 + 52 + 46 + 62 + 54 + 40 + 96 + 52 + 0.8 + 40 + 42 + 52 + 60}{15}$$

$$= \frac{822}{15} = 54.8$$

(ii) In ascending order :-

34, 40, 40, 42, 42, 46, 48, 52, 52, 52, 54, 60, 62, 96, 98

As 15 is a odd number :-

$$\left(\frac{n+1}{2}\right) = \frac{15+1}{2} = \frac{16}{2} = 8^{\text{th}} \text{ observation}$$

∴ Hence 52 is the median.

(iii) As 52 is repeated more times it is the mode of data.